

Dual Frequency Band Inverted-F Antenna

Abstract

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A dual frequency band inverted-F antenna used for communicating a low frequency signal and a high frequency signal includes a substrate, a ground metal, a vortical metal structure, a short circuit leg, a feeding leg, and a terminal micro strip. The ground metal and the terminal micro strip are formed on the lower surface of the substrate. The vortical metal structure, formed on the upper surface of the substrate, further has a short circuit end and an open circuit end. The short circuit leg connects electrically the short circuit end of the vortical metal structure with the ground metal. The feeding leg extends along a predetermined direction of the vortical metal structure to couple with a feeding circuit on the substrate. The terminal micro strip connects electrically to the open circuit end through a first conductive aperture. By increasing the encircling number of the vortical metal structure, the coupling effect is generated so that the equivalent wavelength of the high frequency signal can be longer, thus the resonance frequency thereof can be reduced, and so a first frequency can be still kept communicating at a lower frequency band and a second frequency can also be added for communicating at a higher frequency band.

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